



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,400	02/06/2002	Shigetaka Kobayashi	JP920000346US1	9612

7590

05/09/2006

Arthur J. Samodovitz
IBM Corporation, Dept. IQ0A/Bldg. 40-3
1701 North Street
Endicott, NY 13760

EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/068,400

Applicant(s)

KOBAYASHI ET AL.

Examiner

Justin R. Fischer

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-62 is/are pending in the application.
- 4a) Of the above claim(s) 42-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 42-61 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

In particular, originally submitted claims 22-41 (and new claim 62) deal with a method that includes irradiating a substrate with near infrared light, with some of the light being absorbed by said substrate. However, newly submitted claims 42 and 52 fail to require such an irradiating step. On the other hand, newly submitted claims do require positioning and heating a block against a surface of a resilient sheet- these limitations are not required by the originally presented claims. As such, it is evident that the claims are directed to different inventions, each having a unique and separate means for establishing patentability. This analysis clearly suggests, independent of the prior art applied (as mentioned by applicant), that the respective inventions are in fact patentable over each other (inventions are patentably distinct). It is additionally noted that the decision by the Board of Appeals does not influence the restriction detailed above. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 42-61 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

It is additionally noted that a further restriction between independent claims 42 and 52 is applicable as the inventions are related as method and apparatus. In this

Art Unit: 1733

instance, the apparatus can be used in a materially different method, such as one in which different electrical components are being adhered or one in which substrates different than those detailed in the claimed invention are being adhered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 62 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As presented, claim 62 includes the following language "resilient sheet". The original disclosure, however, does not include such language and as such, the language is seen to constitute new matter. It appears that this layer is intended to represent the pressure buffer 14- if such is this case, it is suggested that applicant amend the claim to include this language.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 62 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As currently drafted, claim 62 recites the limitations "said color

Art Unit: 1733

filter" and "said polarizer" in the second to last paragraph of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama (US 5,847,796) and further in view of the APA, Oxman (US 6,395,124), and Tagusa (US 5,668,700). Uchiyama discloses a method of bonding an IC chip to a glass substrate of a liquid crystal device with a thermosetting anisotropic conductive film (ACF) or other thermosetting resin, wherein the ACF is placed between the IC chip and the glass substrate. In this instance, the ACF is cured to bond the IC chip and glass substrate together by irradiating near infrared energy (electromagnetic waves) through the glass substrate to heat and cure the ACF (Column 13, Line 60-Column 14, Line 26). Uchiyama does not explicitly state that the glass substrate absorbs part of the near infrared energy and transmits the remainder to the ACF; however, it is clear that glass does not have a 100% transmission rate of near infrared energy and that some part of the infrared energy will be absorbed by the glass.

Uchiyama is silent towards the substrate being fiberglass reinforced epoxy (FR4); however, the APA teaches using a conventional glass substrate for liquid crystal display, such as FR4, and that such conventional glass substrate is capable of use in

Art Unit: 1733

the present application, i.e. the glass substrate absorbs part of the near infrared radiation and transmits part of it to the ACF (specification, page 8, lines 6-16).

Furthermore, it is known in the prior art to bond an IC chip to a FR4 substrate by curing adhesive with near infrared radiation that is directed at the substrate, which absorbs some and allows some to pass through and cure the adhesive, as taught in Oxman (Column 9, Lines 37-58 and Column 10, Lines 33-34). One skill in the art at the time of the invention would have readily appreciated using well known and conventional materials in the LCD art for the substrate, such as FR4, for the liquid crystal device in the method of Uchiyama that is capable of absorbing part of the near infrared radiation and transmitting part of it to the ACF, as suggested in the APA and Oxman.

Regarding the additional limitations, tool 4 is seen to constitute a block that is heated. Additionally, the method of Uchiyama includes a polarizer or polarizing plate 11 and a color filter 3, it being well recognized that liquid crystal displays include a liquid crystal material sandwiched between two sheets (e.g. a substrate and a color filter).

As to the "resilient sheet", it appears that applicant is referring to a cushion member between the block and the IC chip. One of ordinary skill in the art at the time of the invention would have found it obvious to include such a layer since it constitutes an extremely well-known and conventional layer in a plurality of lamination methods, including those related to LCD manufacture, as shown for example by Tagusa (Column 12, Lines 35-60). It is additionally noted that the use of such cushion layers is further known in order to avoid damage of the substrate materials, which are commonly formed of relatively fragile material, such as glass or synthetic resin.

Lastly, it is well recognized that the temperature proximate the filter and polarizer should be controlled in order to eliminate the respective layers from degrading or experiencing any damage during heating. As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to cool that portion of the cushion member that is adjacent the filter and polarizer. It is further noted that the exposure to the environment (in the relevant region) would provide a cooling effect since the heating tool does not extend to the periphery of the filter and polarizer.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin Fischer

May 5, 2006